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2. A method as claimed in claim 1 wherein the first portion of the seismic data is data acquired with a long source-receiver offset.

3. (Currently Amended) A method as claimed in claim 1 ~~or 2~~ wherein the first component is the vertical component of particle motion and the second component is pressure.

4. (Currently Amended) A method as claimed in claim 1 ~~or 2~~ wherein the first component is pressure and the second component is the vertical component of particle motion.

5. (Currently Amended) A method as claimed in claim 1, ~~2, 3 or 4~~ wherein the step of determining the first calibration filter comprises minimising the energy immediately above the seafloor of the downgoing constituent of the second component for the selected portion of the seismic data.

6. (Currently Amended) A method as claimed in ~~any preceding~~ claim 1 and comprising the further steps of selecting a second portion of the seismic data containing only events arising from primary reflection of seismic energy and determining a second calibration filter from the second portion of the seismic data, the second calibration filter being to calibrate the first component of the seismic data relative to the second component of the seismic data.

7. A method as claimed in claim 6 and comprising the further step of determining a wavenumber-dependent calibration filter from the first calibration filter and the second calibration filter.

8. A method of processing multi-component seismic data obtained from seismic signals propagating in a medium, the method comprising the steps of: selecting a first portion of the seismic data corresponding to a first wavenumber range; determining a

first calibration filter from the first portion of the seismic data; selecting a second portion of the seismic data corresponding to a second wavenumber range different from the first wavenumber range; determining a second calibration filter from the second portion of the seismic data; and determining a wavenumber-dependent calibration filter from the first calibration filter and the second calibration filter, the wavenumber-dependent calibration filter being to calibrate a first component of the seismic data relative to a second component of the seismic data.

9. A method as claimed in claim 8 wherein the first wavenumber range corresponds to seismic data containing substantially only critical refraction events and the second wavenumber range corresponds to seismic data containing substantially only primary reflection events.

10. A method of processing multi-component seismic data obtained from seismic signals propagating in a medium, the method comprising the steps of: selecting a first portion of the seismic data in which the first arrival contains only upwardly propagating seismic energy above the seafloor; and determining a first calibration filter from the first portion of the seismic data, the first calibration filter being to calibrate a first component of the seismic data relative to a second component of the seismic data.

11. (Currently Amended) A method as claimed in ~~any preceding~~ claim 1 and comprising the further step of calibrating the first component of the seismic data using the first calibration filter.

12. (Currently Amended) A method as claimed in claim 7, ~~8 or 9~~ and comprising the further step of calibrating the first component of the seismic data using the wavenumber-dependent calibration filter.

13. A method of seismic surveying comprising the steps of: actuating a source of seismic energy; acquiring seismic data at a receiver spatially separated from the

source; and processing the seismic data by a method as defined in any of claims 1 ~~to~~ ~~12~~.

14. An apparatus for processing multi-component seismic data to determine a calibration filter for calibrating a first component of the seismic data relative to a second component of the seismic data, the apparatus comprising: means for selecting a first portion of the seismic data containing only events arising from critical refraction of seismic energy; and means for determining a first calibration filter from the first portion of the seismic data.

15. An apparatus for processing multi-component seismic data to determine a calibration filter for calibrating a first component of the seismic data relative to a second component of the seismic data, the apparatus comprising: means for selecting a first portion of the seismic data in which the first arrival contains only upwardly propagating seismic energy above the seafloor; and means for determining a first calibration filter from the first portion of the seismic data.

16. An apparatus for processing multi-component seismic data to determine a calibration filter for calibrating a first component of the seismic data relative to a second component of the seismic data, the apparatus comprising: means for selecting a first portion of the seismic data corresponding to a first wavenumber range, means for determining a first calibration filter from the first portion of the seismic data; means for selecting a second portion of the seismic data corresponding to a second wavenumber range different from the first wavenumber range; means for determining a second calibration filter from the second portion of the seismic data; and means for determining a wavenumber-dependent calibration filter from the first calibration filter and the second calibration filter.

17. (Currently Amended) An apparatus as claimed in claim 14 ~~or 15~~ and further comprising means for calibrating the first component of the seismic data using the first calibration filter.

18. An apparatus as claimed in claim 16 and further comprising means for calibrating the first component of the seismic data using the wavenumber-dependent calibration filter.

19. (Currently Amended) An apparatus as claimed in ~~any of claims 14 to 18~~ claim 14 and comprising a programmable data processor.

20. A storage medium containing a program for an apparatus as defined in claim 19.